Ensemble lake ecosystem modelling

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What is ensemble modelling?

- Three widely used coupled hydrodynamicbiogeochemical one-dimensional models
 - DYRESM-CAEDYM
 - GLM-AED2
 - GOTM-WET
- Tried and tested across lakes and reservoirs of various sizes
- Standardisation of model inputs and outputs
- Development of methods and tools to improve ease of use and facilitate adoption
- Integration with catchment modelling
- Open-source code for developing workflows and modelling pipelines with focused output



Why use ensemble modelling?



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Ensemble modelling is state-of-the-art (Picolroaz et al., 2023; Soares & Calijuri, 2021)



Increasing use across multiple aquatic systems for modelling and forecasting (Clayer et al., 2023; Olsson et al., 2023)



Quantification of uncertainty and better estimates of states (Wynne et al., 2023; Trolle et al., 2014)



Output

- Suite of modelling tools to build a model ensemble for any lake
- Scenario simulations using integrated approaches
- Estimation of uncertainty alongside model output
- Customisation and presentation of relevant output for end-users



Dissolved Oxygen

